CIVIL TECH LABS

5, 1st Cross, Srinivasa Colony, Mission Road, Bangalore - 560027
Ph: 080 - 4114 2867, Email: civiltechlabs@gmail.com

TEST REPORT

TEST ON AGGREGATES ('AIV' & Combined Flakiness & Elongation Index)

Bituminous Macadam (BM)

Name & Address of the Customer	AEE, Yelahanka Sub Division, BBMP.
Name of Work	Asphalting and Improvements to roads at Sapthagiri layout 1st main road in ward no 01 of Yelahanka Sub Division.
Name of Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	15/04/2017
Reference	**MORTH Table 500-03.**

Sl. No	Aggregate Impact Value 'AIV' in %	Average AIV in %	Remarks
1	22.3	21.9	Satisfactory (As per MORTH for BM, Maximum allowed AIV is 30%)
2	21.5		

Test	Result in %	Combined Flakiness & Elongation Index 'C-F&E' in %	Remarks
Flakiness Index	11.2	24.0	Satisfactory (As per MORTH for BM, Maximum allowed 'C-F&E' is 30 %)
Elongation Index	12.8		

Note:

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3. Any correction invalidates this report.
4. The results are based on the test conducted on samples supplied by the client.

Khushboo

(KHUSHBOO L.)
Quality Manager

CIVIL TECH LABS BANGALORE

AEE

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TEST REPORT

TEST ON THE DETERMINATION OF BITUMEN CONTENT ON BITUMINOUS MACADAM MIX-GRADE 2

Name & Address of the Customer	AEE, Yelahanka Sub Division, BBMP.
Name of Work	Asphalting and Improvements to roads at Sapthagiri layout 1st main road in ward no 01 of Yelahanka Sub Division.
Name of the Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	15/04/2017

A)

Sl. No.	Test	Test Method	Technical Reference
1	Extraction of mineral aggregate	Test Method A (Centrifuge Method)	ASTM: D2172/ D2172M-11
2	Determination of amount of mineral matter/fines in the extract	Ashing Method	

B)

Specification: As Per MORTH (4th Revision) Table 500-4 BM-Grade -2, Bitumen Content for BM Grade-2 is 3.3 % TO 3.5 %		
Sl. No.	**Description**	**Values**
1	Weight of bituminous mixture before extraction test, W_1 g	2000
2	Weight of mineral aggregate obtained from centrifuge extractor, W_2 g	1921.7
3	Weight of mineral matter in the total volume of extract (by ashing), W_3 g	11.5
4	Total weight of aggregate in the bituminous mixture, W_4 g = (W_2 +W_3) g	1933.2
5	Total weight of Bitumen extracted from the mixture, W_5 g = (W_1-W_4) g	66.8
6	Bitumen content in %, (W_5/W_1) %	3.34

Remarks	**Satisfies the requirements.**

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TEST REPORT

GRADATION TEST ON BITUMINOUS MACADAM MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Sub Division, BBMP.
Name of Work	Asphalting and Improvements to roads at Sapthagiri layout 1st main road in ward no 01 of Yelahanka Sub Division.
Name of the Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	15/04/2017
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011)

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-4 for BM Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
26.5	100	**100**	**Satisfies the requirement.**
19	90-100	**97.2**	
13.2	56-88	**75.6**	
4.75	16-36	**27.2**	
2.36	4-19	**17.4**	
0.3	2-10	**7.8**	
0.075	0-8	**6.8**	

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TEST REPORT

GRADATION TEST ON BITUMINOUS MACADAM MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Sub Division, BBMP.
Name of Work	Asphalting and Improvements to roads at Sapthagiri layout 1st main road in ward no 01 of Yelahanka Sub Division
Name of the agency	M/s. Technical Manager (West), KRIDL
Date of Testing	15/04/2017
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011)

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-4 for BM Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
26.5	100	**100**	**Satisfies the requirement.**
19	90-100	**98.4**	
13.2	56-88	**74.5**	
4.75	16-36	**28.4**	
2.36	4-19	**16.5**	
0.3	2-10	**8.2**	
0.075	0-8	**7.1**	

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Accredited by **NABL** as per ISO/ IEC 17025 : 2005

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T-2654

To,

Assistant Executive Engineer,
Yelahanka Sub Division,
BBMP.

20th April 2017

Dear Sir,

Sub: Testing of Bituminous Concrete.

As requested, tests on physical properties were carried out for the Bituminous Concrete supplied by you, for the work of **'Asphalting and Improvements to roads at Sapthagiri layout 1st main road in ward no 01 of Yelahanka Sub Division.'**

Please find the enclosed Test Reports of the above.

Thanking You,
For Civil Tech Labs

CIVIL TECH LABS BANGALORE

(KHUSHBOO L.)
Quality Manager

CIVIL TECH LABS

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TEST REPORT

TEST ON DETERMINATION OF BITUMEN CONTENT ON BITUMINOUS CONCRETE MIX-GRADE 2

Name & Address of the Customer	AEE, Yelahanka Sub Division, BBMP.
Name of Work	Asphalting and Improvements to roads at Sapthagiri layout 1st main road in ward no 01 of Yelahanka Sub Division.
Name of Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	20/04/2017

A)

Sl. No.	Test	Test Method	Technical Reference
1	Extraction of mineral aggregate	Test Method A (Centrifuge Method)	ASTM: D2172/ D2172M-11
2	Determination of amount of mineral matter/fines in the extract	Ashing Method	

B)

Specification: As Per MORTH (4th Revision) Table 500-18, Bitumen Content for BC Grade-2 is 5% to 7%

Sl. No.	Description	Values
1	Weight of bituminous mixture before extraction test, W_1 g	2000.00
2	Weight of mineral aggregate obtained from centrifuge extractor, W_2 g	1872.68
3	Weight of mineral matter in the total volume of extract (by ashing), W_3 g	12.89
4	Total weight of aggregate in the bituminous mixture, W_4 g = (W_2 +W_3) g	1885.57
5	Total weight of Bitumen extracted from the mixture, W_5 g = (W_1-W_4) g	114.43
6	Bitumen content in %, (W_5/W_1) %	5.72

Remarks	**Satisfies the requirement.**

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TEST REPORT

GRADATION TEST ON BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Sub Division, BBMP.
Name of Work	Asphalting and Improvements to roads at Sapthagiri layout 1st main road in ward no 01 of Yelahanka Sub Division.
Name of Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	20/04/2017
Technical Reference	IS : 2386(Part I)-1963 (Reaffirmed 2011)

	Sample-1		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-18 for BC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
19	100	**100**	**Satisfies the requirements**
13.2	79-100	**96.2**	
9.5	70-88	**83.6**	
4.75	53-71	**62.4**	
2.36	42-58	**45.6**	
1.18	34-48	**40.1**	
0.6	26-38	**32.6**	
0.3	18-28	**25.4**	
0.15	12-20	**17.8**	
0.075	4-10	**7.9**	

Note:

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TEST REPORT

GRADATION TEST ON BITUMINOUS CONCRETE MIX GRADE - 2

Name & Address of the Customer	AEE, Yelahanka Sub Division, BBMP.
Name of Work	Asphalting and Improvements to roads at Sapthagiri layout 1st main road in ward no 01 of Yelahanka Sub Division.
Name of Agency	M/s. Technical Manager (West), KRIDL
Date of Testing	20/04/2017
Technical Reference	IS : 2386(Part I)–1963 (Reaffirmed 2011)

	Sample-2		
IS Sieve Designation (mm)	**% By Weight Passing IS Sieve as per MORTH (4th Revision) Table 500-18 for BC Grade-2**	**Actual % By Weight Passing IS Sieve**	**Remarks**
19	100	**100**	**Satisfies the requirements**
13.2	79-100	**95.4**	
9.5	70-88	**82.3**	
4.75	53-71	**63.5**	
2.36	42-58	**46.5**	
1.18	34-48	**39.5**	
0.6	26-38	**31.2**	
0.3	18-28	**24.5**	
0.15	12-20	**18.6**	
0.075	4-10	**8.3**	

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